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Product:	**MAMMOMAT Novation DR (DROC)**
Title:	General Hardcopy Camera Information
Affected systems:	MAMMOMAT Novation DR with Image Processing, V1.0 and Hardcopy Cameras
Replaces:	n.a.

1　General Information

All **Modality** parameter settings regarding MAMMOMAT Novation DR and hardcopy cameras are already described in the document " MAMMOMAT Novation DR Installation Instructions.

This document ("General Hardcopy Camera Information") contains currently released hardcopy camera and image quality data for the MAMMOMAT Novation DR System.

All camera parameter settings regarding MAMMOMAT Novation DR and hardcopy cameras are described in the document "Specific Hardcopy Camera Information for ....".

1.1　Block Diagram
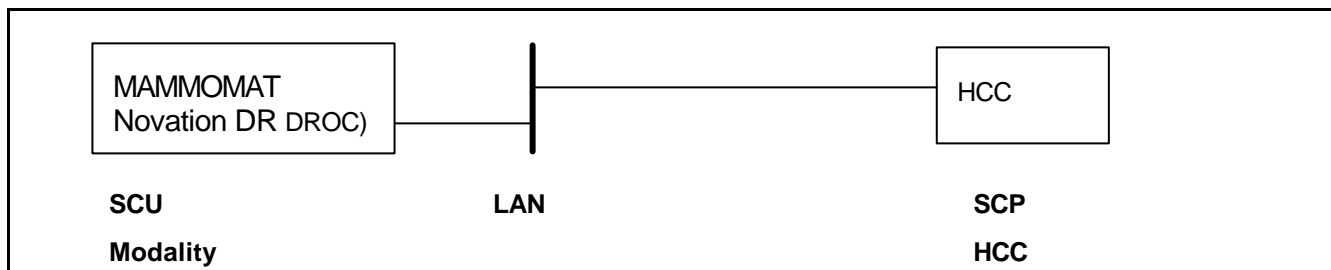
1.2　System References

See Siemens Intranet Med UPTIMES Services:
Technical Documentation for MAMMOMAT Novation DR and Hardcopy Cameras.

1.3　Hardware Components

See Siemens Intranet Med UPTIMES Services: Product Information/SP/Mammography/MAMMOMAT Novation DR/CB-DOC/ Installation/Installations instructions.

1.4　Restrictions and known Effects

n.a.

2   Scope of Applicability

2.1   Modality / System

Device Type:	**Modality (SCU)**
Device Name:	MAMMOMAT Novation DR
Modality System:	Sun Workstation
HW Version:	SunBlade 150
SW Version:	MAMMODROC_S3_0_0_15 / Image Processing, V1.0 / DRAPI-V2.1.4.4
DICOM Conformance Statement:	HOLOGIC, Siemens Acquisition Station, SW-V3.0
Note:	Operating System = Sun OS Release 5.8

2.2   Hardcopy Cameras

This table consists of all hardcopy cameras using Dicom Basic Print.

Manu-facturer	HCC Name	Specific HCC Document	HCC release with SW Version	
			S3_0_0_15	
Agfa	Drystar 4500M	SPB7-250.814.11.01.02	**X**	
Fuji	FM DPL / FN-PS551	SPB7-250.814.12.01.02	**X**	
Agfa	LR5200 / MG 3000	SPB7-250.814.13.01.02	**X**	
Kodak	DryView 8610	SPB7-250.814.14.01.02	**X**	
Kodak	DryView 8900	SPB7-250.814.15.01.02	**n.a.**	

X = Hardcopy Camera release with mentioned software version

3   Modality

3.1   Hardware and Software Prerequisites

All HW and SW prerequisites are included with the MAMMOMAT Novation DR System delivery volume.

3.2   Parameters

For software configuration, HCC data/parameters and possible additional film matrix properties are required.

3.2.1   Modality Data and Configuration Parameter

Properties	Example	Supplier
Port Number	dynamisch	Default entry
AE Title	DIRECT_DIGXRAY	Network Administrator
TCP/IP address	xxx.xxx.xxx.xxx	Network Administrator

3.2.2   HCC Data and Configuration Parameter (e.g., Fuji FM DPL)

File name	Content	Remarks
fujihighres.cfg	**Configuration DROC** Software Configuration Edit ./installed/raw/vdevfujihighres_001 Edit ./installed/raw/vdevfujihighres_001's configuration file: /linx_mp/resources/installed/raw/vdevfujihighres_001/fujihighres.cfg -- **Group: Server** factory object name = RMS://siemens06/installed/services/jss_server:PJF_OREF spooler name = DicomPrintSpooler priority = normal max retries = 20 -- **Group: Output Device** device type = FUJI High Resolution -- **Group: Print Job Description** device name = FMDPLHR device address = 146.254.124.80:104 request annotation SOP class = false request print job SOP class = false print job poll period = 15 print job timeout = 300 printer poll period = 15 association timeout = 0 collate = false	This parameter can be changed within Netscape Service Login. Only importend parts of the file shown.

```
custom lut file =
photometric interpretation =  automatic
---------------------------------------------------------------------------------
```
Group: Film Session
```
copies =  1
medium type =  BLUE FILM
film destination =  PROCESSOR
film session label =  DROC film
memory allocation =  0
print priority =  MED
---------------------------------------------------------------------------------
```
Group: Film Box
```
available image display formats =  PORTRAIT\1,1
image display format =  PORTRAIT\1,1
annotation display format id =  FORMAT1
number of annotation boxes =  6
annotation boxes per text line =  3
max annotation box text string size =  63
annotation string =
max text line size =  189
number of image text lines =  5
image text position =  left
image text overlap =  overwrite
image text reorient =  reorient_0
```
film size id = automatic
```
film magnification type =  CUBIC
film smoothing type =  NONE
border density =  BLACK
empty image density =  BLACK
```
full pixel range = true
min density = 20
max density = 350
configuration info = CS100
```
trim =  NO
---------------------------------------------------------------------------------
```
Group: Image Box
```
polarity =  NORMAL
available image magnification types =  REPLICATE BILINEAR
CUBIC
```
image magnification type = REPLICATE
```
image smoothing type =  NONE
```
true size capable = true
enable selective true size = true
```
pixel size =  70
pad =  take
image text line 1 =  <Off>
image text line 2 =  <Off>
image text line 3 =  <Off>
image text line 4 =  <Off>
image text line 5 =  <Off>
---------------------------------------------------------------------------------
```
Group: PORTRAIT\1,1
```
width =  3337
```

height = 4114	

Note:	If Film Size ID is "automatic", the appropriate film size (Large Patient Matrixsize=large Filmsize) will be printed.
	After a change of Film Size ID in Netscape you have to press the Update button and restart the Sun!!!

3.3   SW Configuration

The following information is required: host name, TCP/IP address, the application entity title, and port number of the DICOM remote host (DICOM laser camera).
The AE title, port number and camera type must be provided by the local camera service.
See Siemens Intranet Med UPTIMES Services:
    Product Information/SP Systems *"Product"* CB-DOC/Installation Instructions

4   Image Quality and Optical Density

4.1   General Image Quality Information

The image data from the modality to the HCC are corrected by a standard LUT, which is generally used with any camera and optimized for mammography images.

SCU / Novation DR	SCU is configured to GSDF – LUT. In addition, an extra LUT (PrintLUT) is applied. No LUT settings are possible.
SCP / HCC	HCC outputs linear image data. Must be configured by HCC service.

4.2   Density Verification (LUT)

Modality is configured to GSDF - LUT,
Printer is configured to LINEAR - LUT.
Select SMPTE-Testimage / Dmin = 0.2 / Dmax = 3.5 / STANDARD\1,1 image display format.
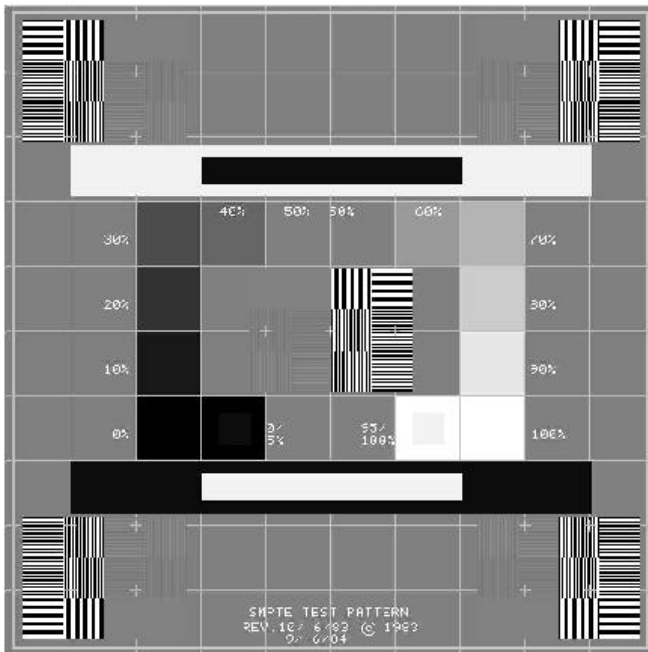
SMPTE_1k_......BMP

Steps	Positiv Ref. LUT	PlusTolerance	MinusTolerance
1	0.20	0.23	0.17
2	0.41	0.45	0.37
3	0.62	0.66	0.58
4	0.84	0.89	0.79
5	1.06	1.12	1.00
6	1.29	1.36	1.23
7	1.54	1.61	1.47
8	1.82	1.90	1.74
9	2.14	2.23	2.06
10	2.57	2.67	2.48
11	3.50	3.60	3.40

4.3   Reference Film

Modality is configured to GSDF - LUT, printer is configured to LINEAR - LUT.

Dmin = 0.2 / Dmax = 3.5 / STANDARD\1,1 image display format.

A print job has to be sent by the modality with the following settings: available Filmsizes, Portrait, 1 Columns, 1 Rows, Normal Image Polarity, Replicate – Magnification, GSDF- LUT, SMPTE-Testimage for technical image and "collimation^automatic/pink-helene" for clinical image.

5 Error and Warning Messages

n.a.

6 Abbreviations

AE Title	Application Entity Title
CTE	Department Name
DCS	DICOM Conformance Statement
DICOM	Digital Imaging and Communication in Medicine
HW/ SW	Hardware / Software
HCC	Hardcopy Camera
LAN	Local Area Network
LUT	Look-up Table
OEM	Original Equipment Manufacturer
SCP	Service Class Provider
SCU	Service Class User
SGK	Department Name
TCP/IP	Transfer Control Protocol / Internet Protocol

7 Changes to Previous Version

n.a.

Document revision level

The document corresponds to the version/revision level effective at the time of system delivery. Revisions to hardcopy documentation are not automatically distributed.

Please contact your local Siemens office to order current revision levels.

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